REMARKS

Applicants respectfully request that the above amendments to the claims be entered prior to examination thereof.

The amendments to the claims are deemed appropriate by applicants in view of the prosecution history of copending parent application Serial No. 09/795,177 and copending grandparent application Serial No. 09/573,760.

Applicants also enclose herewith a TERMINAL DISCLAIMER which is intended to obviate the need for a non-statutory double patenting rejection.

Applicants respectfully request that this application be examined in view of the above amendments and the enclosed TERMINAL DISCLAIMER.

Applicants enclose herewith the appropriate fee for additional claims 26-38.

Applicant(s) submit herewith a VERSION WITH MARKINGS TO SHOW CHANGES MADE.

Please charge any fees or credit any overpayments to Deposit Account No. 08-2060.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION —

Please amend the specification as follows:

Please substitute the following paragraphs in place of paragraphs 20, 33, 42, 50, 51-52, 56, 58 and 60.

[0020] The fibers 22 which are used in the face sheets 18 and 20 can be any of the fiber materials which are used to form composite laminates. Exemplary fiber materials include glass, aramid, carbon, ceramic and hybrids thereof. The fibers may be woven, unidirectional or in the form of random fiber mat. Preferred fiber materials include 193 grams per square meter (gsm or g/m^2) plain weave carbon fabric with three thousand filament (3K), six thousand filament (6K) or twelve thousand filament (12K) fibers which are commercially available.

[0033] Exemplary curative agents include dicyandiamide, 3,3'-diaminodiphenylsulfone (3,3'-DDS), amino or glycidyl-silanes such as 3-amino propyltriethoxysilane, CuAcAc/Nonylphenol (1/0.1), 4,4'-diaminodiphenylsulfone (4,4'-DDS), 4,4'-methylenebis(2-isopropyl-6-methylaniline), e.g., Lonzacure M-MIPA (Lonza Corporation, Fair Lawn, NJ), 4,4'-methylenebis(2,6-diisopropylaniline), e.g., Lonzacure M-DIPA (Lonza Corp., Fair Lawn, NJ). Dicyandiamide and 3,3'-DDS are preferred curative agents. Especially preferred are combinations of 3,3'-DDS and dicyandiamide.

[0042] Resin was prepared having the following formulation:

23 weight percent MY-0510 (N,N-Diglycidyl-4-glycidyloxyaniline)

25 weight percent GY281 (bis-F epoxy)

19 weight percent 3,3'-Diaminodiphenylsulfone (3,3'-DDS)

7 weight percent ULTEM® 1000P (polyetherimide)

26 weight percent densified PES

[0050] Resin was prepared having the following formulation:

27.0 weight percent MY-0510 (N,N-Diglycidyl-4-glycidyloxyaniline)

24.9 weight percent GY285 (bis-F epoxy)

15.8 weight percent 3,3[']-Diaminodiphenylsulfone

1.3 weight percent Dicyandiamide

13.5 weight percent micronized Polyethersulfone (PES)

17.5 weight percent densified Polyethersulfone (PES)

[0051] Resin formulations in accordance with this example may also be made wherein the amounts of MY-510, GY281 and 3,3'-DDS are varied by up to ± 15%. Also, the amounts of both types of PES may be varied by as much as ± 40%. The amount of dicyandiamide may be varied by up to ± 50%.

[0052] The densified PES was the same as used in Examples 1 and 2. Average particle size was 10-25 microns with no more than 13 weight percent smaller than 5 microns and no more than 4 weight percent greater than 40 microns. 24.9 parts by weight of GY285 and 6.0 parts by weight of MY0510 were mixed in a resin kettle and heated, with stirring, to 65°C. Once this temperature is attained, 13.5 parts by weight micronized PES 5003P is added to the resin kettle. The mixture is then heated to 128 ± 2°C and held at this temperature for 75 minutes. At the end of 75 minutes, heating is removed and 21 parts by weight of MY0510 are added to the kettle. Stirring is continued as the mixture cools to 65°C. 15.8 parts of 3,3'-DDS is added and mixed for 15 minutes. 1.3 parts of dicyandiamide is then added and the mixture stirred for 5 minutes at 65°C. Finally, 17.5 parts of densified PES is added and stirred in for 10 minutes. The minimum viscosity of the resin was [measuared] measured as set forth in Example 1 and found to be about 370 poise. Panels were prepared by first forming a prepreg of 193 gsm 3K PW carbon fabric containing 70 grams of resin per square meter. The prepreg was formed as follows:

[0056] Resin was prepared following the same procedure as set forth in Comparative Example 1 except that the ingredient amounts were as follows:

23 parts by weight MY-0510

25 parts by weight GY281

19 parts by weight 3,3'-DDS

4.5 parts by weight ULTEM® 1000p

26 parts by weight densified PES

The minimum viscosity of the resin was measured as set forth in Example 1 and found to be 123 poise.

[0058] Resin was prepared following the same procedure as set forth in the preceding Comparative Examples except that the ingredient amounts were as follows:

50 parts by weight MY-0510

50 parts by weight GY281

47.6 parts by weight 3,3'-DDS

0.0 parts by weight ULTEM® 1000p

30 parts by weight non-densified PES

The minimum viscosity of the resin was measured as set forth in Example 1 and found to be about 30 poise.

[0060] Resin was prepared following the same procedure as the previously described Comparative Examples except that the ingredients were as follows:

13.6 parts by weight MY721

11.8 parts by weight MY-0510

25 parts by weight GY281

5 parts by weight Matrimide 9725

20 parts by weight 3,3'-DDS

25 parts by weight densified PES

IN THE CLAIMS —

Please amend the claims as follows:

1. (Amended) A self-adhesive prepreg for bonding to a honeycomb, said self-adhesive prepreg comprising:

at least one fiber layer;

a resin which has been combined with said fiber layer to form [a] said self-adhesive prepreg which includes a bonding surface that is adapted to be bonded directly to said honeycomb, said resin comprising a thermosetting resin, a curing agent, [and a sufficient amount of] a thermoplastic viscosity control agent which is substantially dissolved in said thermosetting resin [to provide a resin having a viscosity which is sufficient to allow said resin to be combined with said fiber layer to form said prepreg] , said thermoplastic viscosity control agent being selected from the group consisting of polyetherimides and micronized polyethersulfone; and

thermoplastic fillet forming particles which [are incorporated into said resin in an amount sufficient to form a prepreg resin which is self-adhesive and wherein said fillet forming particles] are not dissolved to a substantial degree in said prepreg resin and wherein the amounts of said resin dissolved thermoplastic viscosity control agent and said thermoplastic fillet forming particles are such that the minimum viscosity of said prepreg resin during curing thereof is between 150-1500 poise.

2. (Amended) A self-adhesive prepreg according to claim **1** wherein said thermosetting resin is selected from the group consisting of epoxy, bismaleimide and cyanate ester resins.

3. A self-adhesive prepreg according to claim **1** wherein said thermoplastic fillet forming particles are selected from the group consisting of densified and micronized thermoplastic particles which have a glass transition temperature that is above 200°C.

4. A self-adhesive prepreg according to claim **1** wherein said thermoplastic fillet forming particles are selected from the group consisting of densified polyether sulfone, micronized polyether sulfone and densified polyetherimide.

5. A self-adhesive prepreg according to claim **3** wherein said thermoplastic fillet forming particles have particle sizes ranging from 1 to 100 microns.

6. (Amended) A self-adhesive prepreg according to claim **1** wherein said prepreg resin comprises an epoxy thermosetting resin, a [polyetherimide or] micronized polyethersulfone viscosity control agent and densified polyether sulfone fillet forming particles.

7. A self-adhesive prepreg according to claim **1** wherein the minimum viscosity of said prepreg resin over the curing temperature range of said prepreg resin is between 150 to 1500 poise.

8. A self-adhesive prepreg according to claim **1** wherein the minimum viscosity of said prepreg resin over the curing temperature range of said prepreg resin is between 300 to 1200 poise.

9. A self-adhesive prepreg according to claim **1** wherein said thermoplastic fillet forming particles are located substantially at said bonding surface of said prepreg.

10. (Amended) A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim **1** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

11. (Amended) A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim 2 **[3]** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

12. (Amended) A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim 3 **[5]** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

13. (Amended) A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim 4 **[6]** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

14. (Amended) A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim 5 **[7]** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

15. (Amended) A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim 6 **[8]** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

16. (Amended) A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim 8 **[9]** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

17. (Amended) A method for adhesively bonding a prepreg face sheet to a honeycomb comprising the steps of:

forming a self-adhesive prepreg comprising providing at least one fiber layer and a prepreg resin wherein said prepreg resin is combined with said fiber layer to form [a] said self-adhesive prepreg [resin layer] comprising a bonding surface which is adapted to be bonded directly to said honeycomb, said prepreg resin comprising a thermosetting resin, a curing agent, [and a sufficient amount of] a thermoplastic viscosity control agent selected from the group consisting of polyetherimides and micronized polyether sulfone, [so that said prepreg resin has a viscosity which is sufficient to allow said prepreg resin to be combined with said fiber layer to form said prepreg resin layer, said step of forming a self-adhesive prepreg further including the step of incorporating] said thermoplastic viscosity control agent being substantially dissolved in said thermosetting resin and thermoplastic fillet forming particles [into said prepreg resin in an amount sufficient to form a prepreg layer which is self-adhesive and wherein said fillet forming particles] which are not dissolved to a substantial degree in said prepreg resin;

bonding said self-adhesive prepreg to said honeycomb wherein said bonding comprises curing said self-adhesive prepreg for a sufficient time and at a sufficient temperature to substantially dissolve said fillet forming particles and wherein the amounts of said resin dissolved thermoplastic viscosity control agent and said thermoplastic fillet forming particles are such that the minimum viscosity of said prepreg resin during curing thereof is between 150-1500 poise.

18. (Amended) A method according to claim **17** wherein said thermosetting resin is selected from the group consisting of epoxy, bismaleimide and cyanate ester resins.

19. A method according to claim **17** wherein said thermoplastic fillet forming particles are selected from the group consisting of densified and micronized thermoplastic particles which have a glass transition temperature that is above 200°C.

20. A method according to claim **17** wherein said thermoplastic fillet forming particles are selected from the group consisting of densified polyether sulfone, micronized polyether sulfone and densified polyetherimide.

21. A method according to claim **18** wherein said thermoplastic fillet forming particles have particle sizes ranging from 1 to 100 microns.

22. (Amended) A method according to claim **17** wherein said prepreg resin comprises an epoxy thermosetting resin, a [polyetherimide or] micronized polyethersulfone viscosity control agent and densified polyether sulfone fillet forming particles.

23. (Amended) A cured honeycomb sandwich panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim **1** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin and wherein said honeycomb exhibits a core crush of less than 5%.

24. (Amended) A cured honeycomb sandwich panel according to claim **23** wherein said fabric layer comprises three thousand filament, six thousand filament or twelve thousand filament [6K or 12K] carbon fabric.

25.A cured honeycomb sandwich panel according to claim **24** wherein said fabric layer comprises 6K or 12 K carbon fabric and said honeycomb exhibits a core crush which is essentially 0%.

Please add the following new claims:

--26. A self-adhesive prepreg according to claim **1** wherein said thermosetting resin is selected from the group consisting of difunctional, trifunctional and tetrafunctional epoxies.

27. A self-adhesive prepreg according to claim **1** wherein said curing agent is selected from the group consisting of dicyandiamide, 3,3'-diaminodiphenylsulfone, amino or glycidyl-silanes, CuAcAc/Nonylphenol, 4,4'-diaminodiphenylsulfone, 4,4'-methylenebis(2-isopropyl-6-methylaniline), and 4,4'-methylenebis(2,6-diisopropyl-aniline).

28. A self-adhesive prepreg according to claim **27** wherein said curing agent is dicyandiamide, 3,3'-diaminodiphenylsulfone or combinations thereof.

29. A self-adhesive prepreg according to claim **26** wherein said resin comprises:

10 to 40 parts by weight of a trifunctional epoxy resin;
10 to 40 parts by weight of a difunctional epoxy resin;
11 to 25 parts by weight of an aromatic curing agent;
0 to 3 parts by weight of a non-aromatic curing agent;
5 to 15 parts by weight of said thermoplastic viscosity control agent; and
8 to 30 parts by weight of said thermoplastic fillet forming particles.

30. A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim **9** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

31. A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim **26** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

32. A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim **27** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

33. A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim **28** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

34. A cured honeycomb panel comprising a core having at least one face to which a self-adhesive prepreg made according to claim **29** is bonded and wherein said self-adhesive prepreg has been cured so that said thermoplastic fillet forming particles are substantially dissolved in said prepreg resin.

35. A method according to claim **17** wherein said thermosetting resin is selected from the group consisting of difunctional, trifunctional and tetrafunctional epoxies.

36. A method according to claim **17** wherein said curing agent is selected from the group consisting of dicyandiamide, 3,3-diaminodiphenylsulfone, amino or glycidyl-silanes, CuAcAc/Nonylphenol, 4,4'-diaminodiphenylsulfone, 4,4'-methylenebis(2-isopropyl-6-methylaniline), and 4,4'-methylenebis(2,6-diisopropylaniline).

37. A method according to claim **36** wherein said curing agent is dicyandiamide, 3,3'-diaminodiphenylsulfone or combinations thereof.

38. A method according to claim **35** wherein said prepreg resin comprises:

10 to 40 parts by weight of a trifunctional epoxy resin;

10 to 40 parts by weight of a difunctional epoxy resin;

11 to 25 parts by weight of an aromatic curing agent;

0 to 3 parts by weight of a non-aromatic curing agent;

5 to 15 parts by weight of said thermoplastic viscosity control agent; and

8 to 30 parts by weight of said thermoplastic fillet forming particles. --